

## **ICON, an Integrated Coastal Observation Network for the German North Sea**

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The development of an integrated coastal observing system for the German Bight as part of a regional North Sea wide European observation system is one of the focal issues of German marine research in the next decade. It is expected that a tight fusion of data from a dense observational network and modeling via data assimilation will provide throughout information to follow changes in the North Sea ecosystem, to identify climate-induced and anthropogenic cause-and-effect chains and to construct most probable future scenarios with high confidence. The German Helmholtz research centre GKSS will coordinate the implementation of the system as a central node of this national mission. It will be based on results of intense interdisciplinary research carried out in the last decade and closely connected to monitoring programs carried out by the German coastal and marine agencies. The ICON represents the pilot phase (2007 to 2009) where complex systems that operate from local Wadden Sea (observational piles and radar systems) to regional North Sea scales (HF-Radar, FerryBox-systems on freight ships, satellites) are further developed to routine maturity. Observations comprise current and wave fields, local bathymetry, water quality parameters and phytoplankton. The presentation will cover the functioning and preliminary results of ICON, and introduce the perspectives for the final observation system COSYNA (Coastal Observation System for Northern and Arctic Seas) to be implemented until the end of 2012.

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